

WHAT IS CLAIMED IS:

1. A polishing pad, comprising:

a plurality of abrasive units each containing:

an adhesive compound; and

5 a plurality of abrasive particles distributed evenly within the adhesive compound,

wherein the surface of the abrasive units in contact with the surface of a wafer is roughened.

2. The polishing pad of claim 1, wherein material constituting the abrasive  
10 particles comprises cerium oxide ( $\text{CeO}_2$ ).

3. The polishing pad of claim 1, wherein material constituting the adhesive compound comprises a resin.

4. A method of polishing a wafer, comprising the steps of:

providing a first polishing pad, wherein the first polishing pad  
15 comprises a plurality of first abrasive units each fabricated using an adhesive compound with evenly distributed abrasive particles therein;

performing a first polishing operation on the first polishing pad to planarize a wafer;

providing a second polishing pad, wherein the second polishing  
20 pad comprises a plurality of second abrasive units each fabricated using an adhesive compound with evenly distributed abrasive particles therein, and furthermore, the surface of the second abrasive units in contact with the wafer is roughened; and

performing a second polishing operation on the second polishing pad.

5. The wafer polishing method of claim 4, wherein material constituting the abrasive particles comprises cerium oxide ( $\text{CeO}_2$ ).

6. The wafer polishing method of claim 4, wherein material constituting the adhesive compound comprises a resin.

5 7. A method of polishing a wafer, comprising the steps of:

providing a wafer holder for grasping a wafer, wherein the wafer holder has a retainer ring with a surface having a patterned groove thereon;

providing a polishing pad having a plurality of abrasive units, wherein each abrasive unit comprises an adhesive compound with a plurality of evenly distributed abrasive particles therein; and

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pressing the wafer holder that grips the wafer onto the polishing pad to carry out a polishing operation, wherein the groove pattern on the retainer ring roughens the surface of the abrasive units in contact with the wafer in-situ.

8. The wafer polishing method of claim 7, wherein the groove pattern on the surface of the retainer ring comprises crosses, concentric circles, spirals or a combination of the aforementioned shapes.

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9. The wafer polishing method of claim 7, wherein material constituting the abrasive particles comprises cerium oxide ( $\text{CeO}_2$ ).

10. The wafer polishing method of claim 7, wherein material constituting the adhesive compound comprises a resin.

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